UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,845	06/11/2001	Timo Aittola	639321.005(M	1440

7590	05/10/2004	

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EXAMINER
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ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 05/10/2004

17

Please find below and/or attached an Office communication concerning this application or proceeding.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46 and 48* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-46 and 48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

1.   Claims 1-46,and 48 are pending.

2.   Applicant's arguments with respect to claims 1-47 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1,2,5,12-15,17-22,24,25,27,28,30-35,37-42,44-46,48 are rejected under

35.S.C. 102(e) as being anticipated by Yates et al [Yates 6,167,438].

4.   As per claim 1, Yates discloses a method for serving requests for Internet

information files in an Internet caching system, comprising the steps of:

receiving, at a local Internet cache server (i.e.: cache server 38), a user request

from a user (i.e.: client 12-1) for an Internet information file Yates, a user requests

information via Internet including a plurality of cache server to a home server, col 5 line

55-col 6 line 45, Fig 1];

in response to the received request, making a query for said information file, if

said information file has not been cached by said local server [Yates, the cache query,

col 9 lines 1-7, col 10 lines 4-15, 53-63, col 11 lines 12-19; relay request, col 11 lines 37-49];

in response to a reply to said query, making a file request for said information file, wherein said, file request is directed to a feeder (resource manager) means if said reply indicates that a central file server, storing cached Internet information files, has said information file cached [Yates, a resource manager, col 7 line 64-col 8 line 5; a single particular document is considered as being located at only one home server, col 6 line 62-col 7 line 8]; and

querying, from said feeder means in response to said file request, said central file server for said information file, in order to decrease the load on said central file server [Yates, off-load excess load at the home server, col 7 lines 17-27, load balancing, col 8 lines 29-33;col 13 line 57-col 14 line 7]. It was clear that the cache server reducing the workload from a Web home/central server.

5.   Claims 18,39 contain the similar limitations set forth of claim 1. Therefore, claims 18,39 are rejected for the similar rationale set forth in claim 1.

6.   As per claim 2, Yates discloses said query is performed by said local cache server in accordance with a protocol used for communicating between Internet Cache servers [Yates, a local cache server connected to a home/central server via Internet, col 5 line 55-col 6 line 45].

7.   As per claim 5, Yates discloses said query is directed by said local cache server

to said feeder means, which feeder means as a response returns said reply as inherent

feature of the local cache server with a resource manager.

8.   As per claim 12, Yates discloses creating an indexed table having an entry for

each Internet information file being cached at said central file or home server [Yates,

index structure, col 8 lines 5-13].

9.   As per claim 13, Yates discloses performing a search in said indexed table for

said information file [Yates, search index files col 17 lines 60-67]; and indicating in said

reply to said query whether or not said information file was found during said search as

inherent feature of search index file.

10.   As per claim 14, Yates discloses said querying step comprises using the

Structured Query Language (SQL) when querying said central file server for said

information file as inherent feature of database.

11.   As per claim 15, Yates discloses selecting, based upon an original host name or

IP-address of said information file, a central file server out of a set of central file servers

[Yates a different home server, col 7 lines 1-8], each server of said set being arranged

to cache Internet information files with original host names or IP-addresses within a

predefined range [Yates, the request is not permitted to continue on its way to the home

server, col 7 lines 35-45]; and querying the selected central file server for said

information file [Yates, the request continues to the next router on the path to the home

server, col 7 lines 35-45].

12.   As per claim 17, Yates discloses retrieving, at said local cache server, said

information file from its origin server if said reply to said query indicates that said

information file is not cached at said central file server; caching said information file at

said local cache server; and updating said central file server by requesting a copy of

said information file from said local cache server and caching said copy in said central

file server [Yates, updated as necessary by the local cache server, col 7 lines 45-55].

13.   As per claim 19, Yates discloses said first means is arranged to operate in

accordance with a layer three Internet protocol [Yates, TCP/IP col 9 lines 7-24].

14.   As per claim 20, Yates discloses said third means is arranged to use the

Structured Query Language (SQL) when querying for said Internet information file as

inherent feature of database.

15.   As per claims 21,27 Yates discloses said alphanumerical string is included in

said request received from said local cache server using said query derived by said

second means as inherent feature of cache server.

16.   As per claim 24, Yates discloses said Feeder includes fourth means for receiving

a query for an Internet information file from said local cache server; and fifth means for

providing said local cache server with a reply to the received query as inherent feature

of cache server.

17.   As per claim 25, Yates discloses said fourth means and said fifth means are

arranged to operate in accordance with a protocol used for communicating between

Internet cache servers as inherent feature of cache server and TCP/IP.

18.   As per claim 30, Yates discloses said Feeder includes a table with a copy of the

full index of all Internet information files cached at said-central file server [Yates, search

index files col 17 lines 60-67].

19.   As per claim 31, Yates discloses said reply to said received query by said fifth

means is based on the content of said table [Yates, routing table, col 12 lines 48-53].

20.   As per claim 32, Yates discloses requesting means for requesting a copy of an

Internet information file stored in a local cache server; and storing means for storing the

thereby received copy in a central file-server as inherent feature of cache server.

21.   As per claim 33, Yates discloses said requesting means are arranged to request

a copy of an information file from its origin server, if a local cache server storing said

information file resides behind a firewall (i.e.: router) [Yates, routers, col 6 lines 31-39].

22.   As per claim 34, Yates discloses said Updater is arranged to communicate with

said Feeder for receiving an order to request said copy of said information file [Yates,

updated as necessary by the local cache server, col 7 lines 45-55].

23.   As per claims 35,48 Yates discloses said Updater includes a list of known

uncachable information files, for which files a copy should not be requested as inherent

feature of updated [Yates, updated as necessary by the local cache server, col 7 lines

45-55].

24.   As per claim 37, Yates discloses said Updater is implemented by a lower end

computer and said central file server is implemented by a higher end computer as

inherent feature of updated [Yates, updated as necessary by the local cache server, col

7 lines 45-55].

25.   As per claim 38, Yates discloses said Updater and at least one Feeder are

implemented by a single lower end computer as inherent feature of updated [Yates,

updated as necessary by the local cache server including a resource manager, col 7

lines 45-col 8 line 5].

26.   As per claim 40, Yates discloses said feeder means are included in said central

cache site or home server [Yates, home server, col 5 line 55-col 6 line 45].

27.   As per claim 41, Yates discloses each of said feeder means includes a plurality

of Feeders, each of said Feeder interconnecting a subset of said set of local cache

servers with said central file server [Yates, a plurality of local cache servers and home

server, col 5 line 55-col 6 line 45].

28.   As per claim 42, Yates discloses said central cache site is arranged to serve a

defined set of local cache servers, which set in turn serves a linguistically and culturally

homogenous user community as inherent feature of central DNS cache server [Yates

DNS, col 7 lines 8-16].

29.   As per claim 44, Yates discloses each of said Feeder includes a table with a

copy of the full index of all information files cached at said central cache site as inherent

feature of index database.

30.   As per claim 45, Yates discloses said central file server includes cached Internet

information files having original host names within a predefined range [Yates, router

determine the next hop, col 7 lines 45-55].

31.   As per claim 46, Yates discloses updater means, interconnecting said central file

server with at least one local cache server of said set, for retrieving a copy of an Internet

information file form its origin server or from said at least one local cache server and for

storing said copy in said central file server [Yates, a plurality of local cache servers and

home server, col 5 line 55-col 6 line 45].

32.   As per claim 22, Yates discloses said query is derived from said alphanumerical

string and at least part of a header information field of said request received from said

local cache server using said query derived by said second means as inherent feature

of message.

33.   As per claim 28, Yates discloses said query derived by said second means is

derived from said alphanumerical string and at least part of a header information field of

said query received from said local cache server as inherent feature of message..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

34.   Claims 6-11,16,23,29 and 36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yates et al [Yates 6,167,438] in view of Harel [5,873,081].

35.   As per claim 10, Yates discloses said file request provides an alphanumerical

string associated with said information file, said string being used by said feeder means

[Yates corresponding name and address records, col 3 line 55-col 6 line 2]. However

Yates does not teach deriving a query number corresponding to said information file.

A skilled artisan would have motivation to improve the query process on Yates

system and found Harel's teaching. Harel, in a method and mechanism for filtering

incoming electronic document against user queries, taught a filtering process including

a matching list containing term and query identifiers (or query number) which associated

to the document delivery [Harel col 11 lines 15-33]

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to incorporated the query identifiers or query number

associated to the delivery file as taught by Harel into the Yates's apparatus in order to

utilize the database query. Doing so would provide a quick and easy for searching and

filtering data over a large system.

36.   As per claim 6, Yates-Harel disclose deriving, at said feeder means, a query

number corresponding to said information file being concerned in said query [Harel col

11 lines 15-33].

37.   As per claim 7, Yates-Harel disclose using the derived query number when

querying said central file server for said information file [query identifier, Harel col 11

lines 15-33].

38.   As per claim 8, Yates-Harel disclose said query provides an alphanumerical

string associated with said information file, said string being used in said step of deriving

said query number [query identifier, Harel col 11 lines 15-33].

39.   As per claims 9 and 11, Yates-Harel disclose said alphanumerical string is a

Uniform Resource Locator (URL), said query number is derived from said URL and at

least part of a header information field of said file request [query identifier, Harel col 11

lines 15-33].

40.   As per claim 16, Yates-Harel disclose selecting, based upon said query number

derived for said information file [query identifier, Harel col 11 lines 15-33], a central file

server out of a set of central file servers, each server of said set being arranged to

cache Internet information files with corresponding query numbers within a predefined

range [prefetcher means, Yates col 2 lines 42-50]; and querying the selected central file

server for said information file as inherent feature of accessing data to one DNS server.

41.   As per claims 23 and 29, Yates-Harel disclose said query comprises a query

number [query identifier, Harel col 11 lines 15-33], the query number being derived by

applying a hash algorithm to said string and to said part of said header information field

as inherent feature of hash coding [Yates col 5 line 48-col 6 line 30].

42.   As per claim 36, Yates-Harel disclose said Feeder is implemented by a lower end

computer and said central file server is implemented by a higher end computer as

inherent feature of server computers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

43.   Claims 3-4,26,43 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Yates [6,016,512] in view of Wessels et al [Cache Digest, April 1998].

44.   As per claims 3 and 4, Yates discloses an Internet environment wherein a client

request information to a home/central server and a plurality of local cache server [Yates,

a local cache server connected to a home/central server via Internet, col 5 line 55-col 6

line 45].

However Yates does not explicitly detail a protocol used is the Internet Cache

Protocol or Cache Digest. It is well-known in the art that Internet Cache protocol (ICP)

or Cache Digest was used among Web cache server to improve the exchange queries

and replies [Wessels, abstract, page 1].

Thus, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to realize that using the ICP or Cache Digest would provide the

cache knows whether or not the neighbor holds the requested data. Doing so would

enhance the data flow process between Web client nodes, local cache servers and

home/central servers over the large network.

45.   Claims 26,43 contain the similar limitations set forth of claims 3-4. Therefore,

claims 26,43 are rejected for the similar rationale set forth in claims 3-4.

        Any inquiry concerning this communication or earlier communications from the
examiner should be directed to examiner Thong Vu, whose telephone number is (703)-
305-4643.
The examiner can normally be reached on Monday-Thursday from 8:00AM- 4:30PM.
        If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, *Jack Harvey*, can be reached at (703) 305-9705.
        Any inquiry of a general nature or relating to the status of this application should
be directed to the Group receptionist whose telephone number is (703) 305-9700.
        Any response to this action should be mailed to: Commissioner of Patent and
Trademarks, Washington, D.C. 20231 or faxed to :
                After Final   (703) 746-7238
                Official: (703) 746-7239
                Non-Official   (703) 746-7240
        Hand-delivered responses should be brought to Crystal Park 11,2121 Crystal
Drive, Arlington. VA., Sixth Floor (Receptionist).

Thong Vu
Patent Examiner
Art Unit 2142